



NEWSLETTER: 2019/2020 EDITION



ISITI organizes first Institutes Alliance Meeting



The Institute of Social Informatics and Technological Innovations (ISITI) organized the first ever Institutes Alliance Meeting in early 2020, marking the beginning of a collaborative relationship between the various institutes in UNIMAS. AP. Dr. Mohd Azlan Jayasilan, the Director of the Institute of Biodiversity and Environmental Conservation (IBEC), AP. Dr. Saiful Bahari, the Director of Institute of Creative Arts and Technology (iCREATE), AP. Dr Poline Bala, the Director of the Institute of Borneo Studies (IBS) and Prof. Dr. David Perera, the Director of Institute of Health & Community Medicine (IHCM) together with ISITI Director, Prof. Dr. Narayanan sat together to discuss the possible areas of collaboration between the institutes, such as Sustainable Community Transformation, Information Communication and Creative Technology, and also Biodiversity and Environmental Conservation. It was agreed upon that the next step for the Institutes Alliance would be to come up with common research topics and move forward from there.

Global Citizenship and Sustainability (GCS), Service-Learning Borneo Program by Cornell University and UNIMAS



The Global Citizenship and Sustainability (GCS) program at Cornell focuses on student engaged learning in Southeast Asia, which has led to the collaboration with the Institute of Social Informatics and Technological Innovations (ISITI), UNIMAS. This collaborative relationship has also expanded towards a partnership together with the University College of Technology Sarawak (UCTS).

All three universities collaborated on the service-learning and community-based research together with the Iban community in Machan and Bawang Assan and with the Penan community in Long Lamai.

Cornell students worked collaboratively and cross-culturally to conduct an applied community-based research project. Taking an inter-disciplinary and cross-cultural approach, they drew on their combined ability to research the environmental, economic, and social aspects of resource management and local communities. Students collected data through a variety of sources, which include government documents, in-depth interviews with community members, farmers, and business owners, interviews with government officials and resource professionals, and by participating in community meetings. The questions that students researched was driven by the needs of the local community leaders and their need to understand the impacts of climate change and how they could collectively learn from that experience to be better prepared in the future.



The program started from 2nd January 2020 – 17th January 2020 with a total of 11 students from Cornell. The students were divided into 2 groups namely the Sibu and the Long Lamai teams and were later joined by students from UNIMAS and UCTS. In the beginning of the program, they were briefed about related projects as well as the experiences working on the ground by research fellows from ISITI, UNIMAS.

Upon completion of the introductory session in UNIMAS, the students spent 11 days at the respective sites and were assigned with projects related to culture and music, bioacoustics, nomadic practices, cultural preservation in Long Lamai, and cultural preservation at the Sibu site. Towards the end of the Global Citizenship and Sustainability (GCS) program, students were asked to present their projects and findings to UNIMAS academicians and points were taken for the improvement and continuity of the projects.

Empowering the Resettled Indigenous Penan Communities in Murum through Handicraft Development: Working with a Group of Penan Artisans from Long Wat and Long Malim, Murum Region (1st and 2nd Phase).



The aim of this four-year project is to develop sustainable economic solutions for the resettled indigenous Penan communities in the Murum region through a series of handicraft development workshops. Since 2016, a series of knowledge transfer workshops facilitated by the research team from ISITI, UNIMAS were carried out with the community artisans from Long Wat and Long Malim. A total of 10 handicraft development workshops have been carried out in this research. The handicraft workshops were facilitated by Associate Professor Dr. June Ngo in the first phase and Dr. Faridah Sahari together with Ms. Noorhaslina Senin in the second phase and saw the participation of Penan artisans from Long Wat and Long Malim.

The designs of the contemporary handicraft products were designed by UNIMAS researchers. Prototypes of handicrafts were produced and developed by the Penan artisans and UNIMAS throughout this research and development project. The indigenous Penan communities who have resettled in the Murum region benefited from this research through the empowerment of their artisans with necessary skills and knowledge, enabling the Penan craft community to self-sustain and gain financial independence through these newly acquired skills. Besides that, the strategies developed can be used for technology transfer to other under-privileged indigenous communities, while the traditional Penan craft and creation of handicraft products can be preserved for broader usage. The product outcomes from these communities include different sizes of rattan plates, many kinds of bags, headbands, purse, bracelets and many more. UNIMAS has shown its support for these communities by acting not just as their collaborator, but also as one of their customers by taking the initiative of using their handicrafts as special souvenirs to the esteemed guests of UNIMAS.

Revisited TPOA Sites for continuing the Community-University Partnership

Telecentre Programme for Orang Asli (TPOA) West Malaysia is a community-university based initiative in partnership with the Department of Orang Asli Development (JAKOA) and is committed to developing community telecentres as a platform to bridge the digital gap by facilitating communication, providing access to information, enhancing quality of life through mobilizing community, building capacities, identifying programmatic gaps, and impacting social policy.



On 4th March 2020 to 8th March 2020, a short visit to Pos Gob and Pos Balar, Kelantan was carried out with the objective of providing technical updating and training together with routine maintenance checking on the equipment, machines and buildings in order to ensure its performance and efficiency. This visit was led by the TPOA Telecommunication and Information System Design team, Dr. Tan Chong Eng and Ms. Wong Siew Mooi, who were accompanied by the respective site leaders Dr. Nwanesi Peter Karubi and Mr. Christopher Perumal. The team was assisted by the TIED and CONNECTS project manager, Ms. Sharrel Labadin. The future plan for TPOA is to continue providing the Orang Asli with an ICT platform, which will lead towards increased education opportunities, improved knowledge and enhanced standard of living for the communities through capacity building trainings.

Technopreneurship, Innovation & Enterprise Development (TIED) and Community Opportunities & Needs Supported Through Networked Entrepreneurship, Innovation & Communication Technology Strategies (CONNECTS).

In 2017, the Institute of Social Informatics and Technological Innovations (ISITI) was tasked by Sprintz Designs to take on two projects; Technopreneurship, Innovation & Enterprise Development (TIED) and Community Opportunities & Needs Supported Through Networked Entrepreneurship, Innovation & Communication Technology Strategies (CONNECTS). Both these projects leveraged on the concept of social entrepreneurship and enterprise development for the benefit of society. The TIED programme covered 18 sites from West Malaysia, with clustered sites in Johor Bahru, Negeri Sembilan and Perak. On the other hand, the CONNECTS programme covered 12 sites in East Malaysia, with clustered sites in Sibul and Kuching.

Now, in 2020, after 3 years of implementation of the programme, the contents of the TIED and CONNECTS programmes are tailored to meet with the changing needs of Pusat Internet (PI) telecentres, local communities, government agencies, and members of the industries as well as academia. A total of 12 workshops have been conducted to deliver the contents and modules which have been developed by team members who have over 15 years of experience working with ICT for development. The programmes are focused on the five strategic thrusts, namely, the institutional capacity buildings, digital services, local innovation, new media and contents, and community wide integration and outreach for socio-economic development of the communities. Both the programmes are specifically structured to develop the capacity of Pusat Internet staff and extend the outreach of Pusat Internet services.



In addition to these tailor-made programmes, TIED and CONNECTS also include value added training outside the programmes. An example of this is the recent deployment of the 'Animate with SCRATCH 2.0 Workshop'. This workshop was to provide Managers and Assistant Managers of the Pusat Internet with training on computational thinking through Scratch Programming, which can later be offered to members of the community. Scratch Programming is especially beneficial for children, as it enables them to think creatively, work collaboratively and reason systematically. TIED and CONNECTS takes on a train-the-trainer model, whereby experienced members from ISITI will first train the Pusat Internet staff, before these staff transfer the knowledge or guidelines gained from the trainings to the community.

Global Challenge Research Fund (GCRF-UKRI) project: A Community-Centred Educational Model for Developing Social Resilience (ACES): Playfulness Towards an Inclusive, Safe and Resilient Society

As Sarawak moves towards its Digital Economy agenda, the importance of an inclusive and equitable quality education in Sarawak is now becoming more apparent. Students need to be equipped with the necessary technical and soft skills in order to prepare themselves for IR 4.0. This is one of the main objectives of the ACES project, which aims at developing a community-centred pedagogical model that encourages the development of social resilience within local communities.



Spearheaded by a team of researchers comprising of Dr Jacey-Lynn Minoi, AP Dr Fitri Suraya Mohamad, Professor Dr Tarmiji Masron, AP Dr Tan Chong Eng, Dr Leonard Lim, Dr Aazani Mujahid, Dr Floriana Lendai, Dr Farah Zaini, and Mr. Chuah Kee Man, the project also looks at allowing young people to learn non-discipline specific capabilities which would build more than fulfilling friendships and exchanges of ideas. The ACES project will also focus on innovation and design, social innovation and entrepreneurship, in the areas of STEM education, engineering and technology climate change, socio-economy, cultural heritage, special needs and learning disabilities, and sustainable agriculture.

The project was recently launched on 24 June 2020 via a webinar, and saw presentations by partners from Coventry University, Universitas Muhammadiyah Ponorogo (UMPO), and Hanoi University of Science and Technology (HUST), who shared their perspectives and roles in the project. Those who are interested in the project and would like to learn more about how to be a part of it, please visit **https://is.gd/aces_my** to connect with us.

CreativeCulture 4.0 – Transforming 21st century teaching and learning of STEM through play and gamification towards Education 4.0

CreativeCulture is an initiative under UNIMAS' Gamification Centre which aims to promote the elements of Gamification and play in STEM subjects at both primary and secondary schools in Malaysia. In April 2020, the CreativeCulture team was granted the Newton Fund Impact Scheme (NFIS) Programme grant for its new project, under the Newton-Ungku Omar Fund Initiative, a collaboration between British Council, UK Research and Innovation (UKRI) and MIGHT. The 18-month project, which began in May 2020, intends to align its investigation into Gamification with the goals of Industry 4.0. It is also a continuous collaboration on the previous project Gamification for STEM with Coventry. The team partners with the Sarawak Department of Education (JPNS) to collaboratively look into four strategic regions; Kuching-Samarahan, Sibul, Miri-Lawas, Lundu and Bau.



A series of workshops have been planned to tap into local talents among local teachers, to initiate a development of a Gamification Blueprint which will be used by local teachers to integrate game design thinking into their pedagogical strategies. In addition, the team has continuously met with various academics who are keen to explore the use of Gamification for learning. The latest was a group of Quantity Survey lecturers from the Faculty of Built Environment, led by Prof Abdul Rashid Abd Aziz, who visited the Gamification Centre on the morning of the 10th of July. They participated in a mini-workshop on Game Design Thinking, to illustrate how they could use Play as a tool to encourage creative thinking.

On top of project work, the CreativeCulture held the first Gamification Centre committee meeting in myCapsule Space lab on the 17th of July, chaired by its first director, Dr Jacey-Lynn Minoi. Dr Jacey is appointed for two years and will begin planning for research and development for the centre. The first meeting assembled eight newly-appointed Research Fellows, who will work on extending and expanding Gamification at the university, based on their niche areas.



ISITI Publications 2019 & 2020

1. Kulathuramaiyer, Narayanan; Pariyar, Amit; Bala, Poline; Meenatchisundaram, Jaya-Laxshmi; and Kee-Man, Chuah (2020). Preserving Cultural Knowledge Through Community Led MOOCs. IPSI Journal, IPSI Transactions on Internet Research, or TIR (formerly: IPSI BgD Transactions on Internet Research). Vol.16.Issue: Jan 20, <http://ipsitransactions.org/journals/papers/tir/2020jan/p5.pdf>
2. Chu Hiang Goh, Narayanan Kulathuramaiyer (2020). Developing an Indigenous Cultural Values Based Emoji Messaging System: A Socio-Technical Systems Innovation Approach. WebSci '20: 12th ACM Conference on Web Science Companion, 2020. Issue: Jul 20, 32-36. <https://dl.acm.org/doi/abs/10.1145/3394332.3402826>
3. Pariyar, A., Kulathuramaiyer, N., Bala, P. (2020). Towards Participatory MOOCs. Crompton, H., & Traxler, J. (Ed.), "Critical Mobile Pedagogy: Cases of Inclusion, Development and Empowerment" (2020). New York: Routledge.
4. Tabassum G., Kulathuramaiyer N., Harris R., Yeo A.W. (2019). The indirect and intangible impacts of a telecentre on a rural community. Electronic Journal of Information Systems in Developing Countries. Vol.85.Issue:3, 1-15.
5. T.vanGevelta,H.Abokb,M.M.Bennettc,S.D.Famd,F.Georgeb, N.Kulathuramaiyer,bC.T.Lowc,T.Zamane, (2019). Indigenous perceptions of climate anomalies in Malaysian Borneo. Global Environmental Change. Vol:58, Issue: 101974.
6. Arnab S., Minoi J.-L., Mohamad F., Morini L., Clarke S. (2019). Creativeculture: Can teachers be game designers? Proceedings of the European Conference on Games-based Learning. Vol:2019, Issue:10. 32-40.
7. Pariyar A., Kulathuramaiyer N. (2019). Community engagement to gender differentiated impacts of climate change in social media. International Journal of Innovative Technology and Exploring Engineering. Vol: 8, Issue: 8. 1503-1509.

8. Pariyar A., Kulathuramaiyer N., Bin Abdullah J., Man C.K. (2019). Contextualizing learning for rural community using library-in-a-box: Experience from penan community. *International Journal of Innovative Technology and Exploring Engineering*. Vol: 8, Issue: 8. 2499-2506.
9. Minoi J.-L., Mohamad F., Arnab S., Phoa J., Morini L., Beaufoy J., Lim T., Clarke S. (2019). A participatory co-creation model to drive community engagement in rural indigenous schools: A case study in Sarawak. *Electronic Journal of e-Learning*. Vol: 17, Issue: 2. 157-167.
10. Romero M., Arnab S., Smet C.D., Mohamad F., Minoi J.-L., Morini L. (2019). Assessment of co-creativity in the process of game design. *Electronic Journal of e-Learning*. Vol: 17, Issue: 3. 199-206.
11. Ling U.L., Saibin T.C., Labadin J., Aziz N.A. (2019). Assessing Malaysian Teachers' Perception on Computational Thinking Concepts Using SEM. *Proceedings of the Third International Conference on Computing, Mathematics and Statistics (iCMS2017)*.